

1 **WHAT IS CLAIMED IS:**

2 1. An interruptible power system comprising:

3 two current conversion units coupled in parallel between an input AC
4 voltage and a load, wherein each current conversion unit is composed of a
5 rectifier and an inverter both connected in series, wherein the two rectifiers and
6 the two inverters are further connected to form a cross configuration;

7 at least one battery set coupled to output terminals of the two rectifiers;

8 an input transformer coupled between the input AC voltage and input
9 terminals of the two current conversion units;

10 an output transformer coupled to output terminals of the two current
11 conversion units;

12 a static transform switch (STS) having two input terminals and one
13 output terminal, wherein one of the two input terminals is coupled to an output
14 terminal of the output transformer and the other input terminal is coupled to the
15 input AC voltage through a by-pass switch, wherein the output terminal of the
16 STS is coupled to the load;

17 wherein when either the inverter or the rectifier is faulty in one of said
18 current conversion modules, the other inverter or rectifier in the same module is
19 still operated and controlled by the other current conversion module.

20 2. The power system as claimed in claim 1, wherein the at least one
21 battery set further connects to a battery monitoring controller.

22 3. The power system as claimed in claim 2, wherein the battery
23 monitoring controller connects to a remote host through an energy monitoring
24 controller, and thus allowing the remote host to gather energy storage

1 information of said at least one battery set.

2 4. The power system as claimed in claim 1, a first switch is coupled
3 between the input AC power and the input transformer, two second switches are
4 respectively connected between the input transformer and one respective
5 rectifier, two third switches are respectively connected between one respective
6 inverter and the output transformer, a fourth switch is coupled between the
7 output transformer and the STS, and a fifth switch is connected between the at
8 least one battery set and the two current conversions modules.

9 5. The power system as claimed in claim 3, a first switch is coupled
10 between the input AC power and the input transformer, two second switches are
11 respectively connected between the input transformer and one respective
12 rectifier, two third switches are respectively connected between one respective
13 inverter and the output transformer, a fourth switch is coupled between the
14 output transformer and the STS, and a fifth switch is connected between the at
15 least one battery set and the two current conversions modules.

16 6. The power system as claimed in claim 1, an auxiliary by-pass switch
17 is connected between the output of the STS and the input AC voltage.

18 7. The power system as claimed in claim 3, an auxiliary by-pass switch
19 is connected between the output of the STS and the input AC voltage.

20 8. The power system as claimed in claim 4, an auxiliary by-pass switch
21 is connected between the output of the STS and the input AC voltage.

22 9. The power system as claimed in claim 5, an auxiliary by-pass switch
23 is connected between the output of the STS and the input AC voltage.